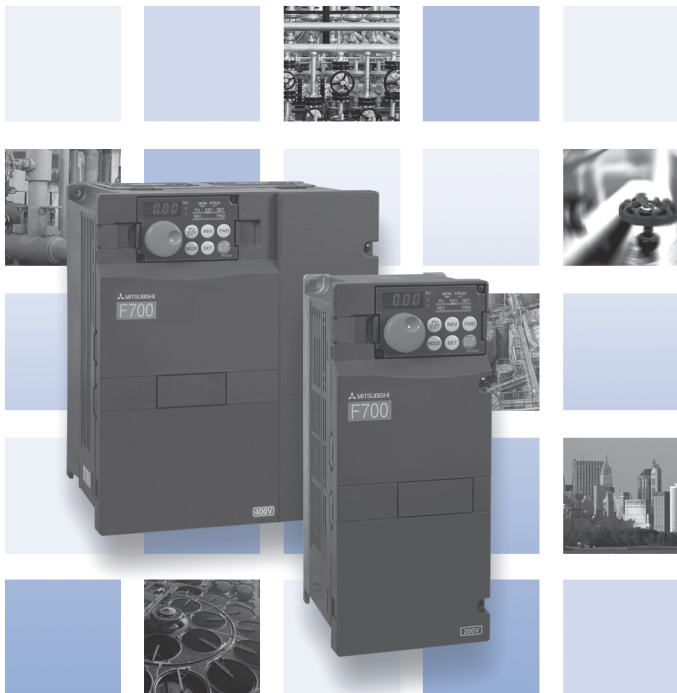


F700 Series

Variable Frequency Drives



POCKET REFERENCE GUIDE

F500 – F700 Conversion Chart

F500 Model Number	F700 Model Number
240 Volt	
FR-F520-3.7K-NA	FR-F720-00167-NA
FR-F520-5.5K-NA	FR-F720-00250-NA
FR-F520-7.5K-NA	FR-F720-00340-NA
FR-F520-11K-NA	FR-F720-00490-NA
FR-F520-15K-NA	FR-F720-00630-NA
FR-F520-18.5K-NA	FR-F720-00770-NA
FR-F520-22K-NA	FR-F720-00930-NA
FR-F520-30K-NA	FR-F720-01250-NA
FR-F520-37K-NA	FR-F720-01540-NA
FR-F520-45K-NA	FR-F720-01870-NA
FR-F520-55K-NA	FR-F720-02330-NA
480 Volt	
FR-F540-3.7K-NA	FR-F740-00083-NA
FR-F540-5.5K-NA	FR-F740-00126-NA
FR-F740-7.5K-NA	FR-F740-00170-NA
FR-F540-11K-NA	FR-F740-00250-NA
FR-F540-15K-NA	FR-F740-00310-NA
FR-F540-18.5K-NA	FR-F740-00380-NA
FR-F540-22K-NA	FR-F740-00470-NA
FR-F540-30K-NA	FR-F740-00620-NA
FR-F540-37K-NA	FR-F740-00770-NA
FR-F540-45K-NA	FR-F740-00930-NA
FR-F540-55K-NA	FR-F740-01160-NA
FR-F540L-75K-NA	FR-F740-01800-NA
FR-F540L-90K-NA	FR-F740-02160-NA
FR-F540L-110K-NA	FR-F740-02600-NA
FR-F540L-132K-NA	FR-F740-03250-NA
FR-F540L-160K-NA	FR-F740-03610-NA
FR-F540L-185K-NA	FR-F740-04320-NA
FR-F540L-220K-NA	FR-F740-04810-NA
FR-F540L-280K-NA	FR-F740-06100-NA
FR-F540L-375K-NA	FR-F740-07700-NA

This chart shows the closest equivalent in performance between the F500 and F700 inverters. In some cases this may result in the selection of a drive with a higher rating than necessary for a specific motor size.

240V Selection Chart

Motor HP	kW	Motor Current	Inverter Model Number	SLD Rating	LD Rating	Frame Size
1	0.75	4.2	FR-F720-00046-NA	4.6	4.2	A
2	1.5	6.8	FR-F720-00077-NA	7.7	7	B
3	2.2	9.6	FR-F720-00105-NA	10.5	9.6	C
5	3.7	15.2	FR-F720-00167-NA	16.7	15.2	C
7.5	5.5	22	FR-F720-00250-NA	25	23	C
10	7.5	28	FR-F720-00340-NA	34	31	D
15	11	42	FR-F720-00490-NA	49	45	D
20	15	54	FR-F720-00630-NA	63	58	E
25	18.5	68	FR-F720-00770-NA	77	70	F
30	22	80	FR-F720-00930-NA	93	85	F
40	30	104	FR-F720-01250-NA	125	114	F
50	37	130	FR-F720-01540-NA	154	140	G
60	45	154	FR-F720-01870-NA	187	170	H
75	55	192	FR-F720-02330-NA	233	212	H
100	75	248	FR-F720-03160-NA	316	288	K
125	90	312	FR-F720-03800-NA	380	346	K
150	110	360	FR-F720-04750-NA	475	432	K



480V Selection Chart

Motor HP	kW	Typical Motor Current	Inverter Model Number	SLD Rating	LD Rating	Frame Size
1	0.75	2.1	FR-F740-00023-NA	2.3	2.1	C
2	1.5	3.4	FR-F740-00038-NA	3.8	3.5	C
3	2.2	4.8	FR-F740-00052-NA	5.2	4.8	C
5	3.7	7.6	FR-F740-00083-NA	8.3	7.6	C
7.5	5.5	11	FR-F740-00126-NA	12.6	11.5	C
10	7.5	14	FR-F740-00170-NA	17	16	D
15	11	21	FR-F740-00250-NA	25	23	D
20	15	27	FR-F740-00310-NA	31	29	E
25	18.5	34	FR-F740-00380-NA	38	35	E
30	22	40	FR-F740-00470-NA	47	43	F
40	30	52	FR-F740-00620-NA	62	57	F
50	37	65	FR-F740-00770-NA	77	70	G
60	45	77	FR-F740-00770-NA	77	70	G
60	45	77	FR-F740-00930-NA	93	85	H
75	55	96	FR-F740-01160-NA	116	106	H
100	75	124	FR-F740-01800-NA	180	144	H
125	90	156	FR-F740-01800-NA	180	144	H
150	110	180	FR-F740-02160-NA	216	180	J
175	132	200	FR-F740-02160-NA	216	180	J
200	150	240	FR-F740-02600-NA	260	216	J
250	185	302	FR-F740-03250-NA	325	260	K
300	220	361	FR-F740-03610-NA	361	325	K
350	250	414	FR-F740-04320-NA	432	361	L
400	300	477	FR-F740-04810-NA	481	432	L
450	335	515	FR-F740-05470-NA	547	481	M
500	375	590	FR-F740-06100-NA	610	547	M
550	400	683	FR-F740-06830-NA	683	610	M
600	450	770	FR-F740-07700-NA	770	683	N
650	485	866	FR-F740-08660-NA	866	770	N
700	500	962	FR-F740-09620-NA	962	866	P
750	560	1094	FR-F740-10940-NA	1094	962	P
800	600	1212	FR-F740-12120-NA	1212	1094	P

SLD = 40° C Ambient, 110% overload 60 secs, 120% for 3 secs, 2 kHz switching frequency

LD = 50° C Ambient, 120% overload 60 secs, 150% for 3 secs, 2 kHz switching frequency

Dimensions – 240V and 480V Drives

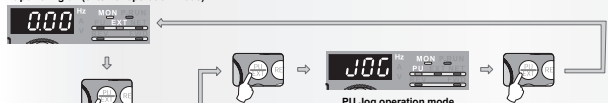
Frame Size	Dimensions in inches (mm)		
	Height	Width	Depth
A	10.2 (260)	4.3 (110)	4.3 (110)
B	10.2 (260)	4.3 (110)	4.9 (125)
C	10.2 (260)	5.9 (150)	5.5 (140)
D	10.2 (260)	8.7 (220)	6.7 (170)
E	11.8 (300)	8.7 (220)	7.5 (190)
F	15.8 (400)	9.8 (250)	7.5 (190)
G	21.7(550)	12.8 (325)	7.7 (195)
H	21.7(550)	17.1 (435)	9.8 (250)
J	24.4 (620)	18.3 (465)	11.8 (300)
K	29.1 (740)	18.3 (465)	14.2 (360)
L	39.8 (1010)	19.6 (498)	15 (380)
M	39.8 (1010)	26.8 (680)	15 (380)
N	52.4 (1330)	31.1 (790)	17.3 (440)
P	62.2 (1580)	39.2 (995)	17.3 (440)

Details of Factory Supplied DC Link Chokes

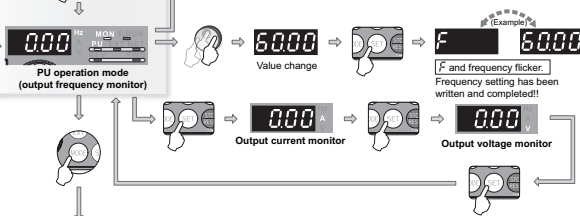
FR-F740- □□□□□ -NA	Dimensions in inches (mm)			Approx. Weight lbs (kg)
	Height	Width	Depth	
01800	13.4 (340)	5.9 (150)	7.5 (190)	44 (20)
02160	13.4 (340)	5.9 (150)	7.7 (195)	48 (22)
02600	15.9 (405)	6.9 (175)	7.9 (200)	57 (26)
03250	15.9 (405)	6.9 (175)	8 (205)	62 (28)
03610	15.9 (405)	6.9 (175)	9.4 (240)	64 (29)
04320	15.9 (405)	6.9 (175)	9.4 (240)	66 (30)
04810	17.3 (440)	7.5 (190)	9.8 (250)	77 (35)
05470	17.3 (440)	7.5 (190)	10 (255)	84 (38)
06100	19.5 (495)	8.3 (210)	9.8 (250)	92 (42)
06830	19.5 (495)	8.3 (210)	9.8 (250)	101 (46)
07700	19.7 (500)	8.7 (220)	9.8 (250)	110 (50)
08660	19.7 (500)	8.7 (220)	10.6 (270)	125 (57)
09620	17.9 (455)	8.5 (215)	13.6 (345)	147 (67)
10940	18.1 (460)	8.5 (215)	14.2 (360)	187 (85)
12120	18.1 (460)	8.5 (215)	14.2 (360)	209 (95)

Operation mode switchover

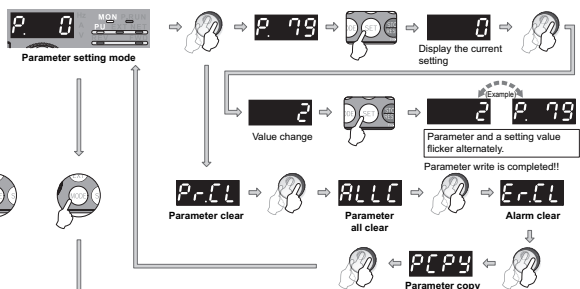
At powering on (external operation mode)



Monitor/frequency setting



Parameter setting



Alarm history

E---

[Operation for displaying alarm history]

Past eight alarms can be displayed.

(The latest alarm is ended by ".").

When no alarm history exists, **E 0** is displayed.

Key to DU07 Keypad Display Codes

Function Name		Description	Indication
Error Message *2	Operation Panel Lock	Operation tried during operation panel lock	HOL d
	Parameter Write Error	An error occurred at parameter writing	Err 1 to Err 4
	Copy Operation Error	An error occurred at parameter copying	Err 1 to Err 4
	Error	The RES signal is on or the PU and inverter cannot make normal communication	Err.
Warnings *3	Stall Prevention (Overcurrent)	Overcurrent stall prevention	OL
	Stall Prevention (Overvoltage)	Overvoltage stall prevention. Appears while the regeneration avoidance function is activated.	oL
	Electronic Thermal Relay Function Prealarm	The electronic thermal O/L relay has reached 85% of the specified value	rH
	PU Stop	Stop/reset on the operation panel is pressed during external operation	PS
	Maintenance Signal Output	The cumulative energization time has exceeded the maintenance output timer set value	nr
Minor Fault *4	Fan Fault	Cooling fan is malfunctioning	Fa
Major Failures *5	Overcurrent Shutoff During Acceleration	An overcurrent occurred during acceleration	EOC 1
	Overcurrent Shutoff During Constant Speed	An overcurrent occurred during constant speed operation	EOC 2
	Overcurrent Shutoff During Deceleration or Stop	An overcurrent occurred during deceleration and at a stop	EOC 3
	Regenerative Overvoltage Shutoff During Acceleration	An overvoltage occurred during acceleration	EOv 1
	Regenerative Overvoltage Shutoff During Constant Speed	An overvoltage occurred during constant speed operation	EOv 2
	Regenerative Overvoltage Shutoff During Deceleration or Stop	An overvoltage occurred during deceleration and at a stop	EOv 3
	Inverter Overload Shut-off (Electronic Thermal O/L Relay)*1	The electronic thermal relay function for inverter element protection is activated	EFHr
	Motor Overload Shut-off (Electronic Thermal O/L Relay)*1	The electronic thermal relay function for motor protection is activated	EFHn
	Fin Overheat	The heatsink overheated	EFI n
	Instantaneous Power Failure Protection	An instantaneous power failure occurred at an input power supply	EI PF
	Undervoltage Protection	The main circuit DC voltage became low	EUvF
	Input Phase Failure	One of the three phases on the inverter input side opened	EI LF
	Stall Prevention	The output frequency dropped to 0.5Hz as a result of deceleration due to excess motor load	EOLr
	Output Side Earth (Ground) Fault Overcurrent Protection	An earth (ground) fault occurred on the inverter's output side	E. GF
	Output Phase Failure Protect.	One of the three phases on the inverter output side opened	E. LF
	External Thermal Relay Operation *6	The external thermal relay connected to the terminal OH was operated	EOHr
	PTC Thermistor Operation	The motor overheat status is detected for 10s or more by the external PTC thermistor input connected to the terminal AU	EPrC
	HC Unit Alarm	An alarm occurred in the option card or an AC power supply is connected to the R/L1, S/L2, T/L3 when the high power factor converter connection is set	EOPr
	Functional Option Error	A communication error occurred in the communication option	EOPr
	Option Card Disconnection	Card is disconnected or misconnected	E. I
	Parameter Storage Device Alarm	Operation of the element where parameters are stored became abnormal. (control circuit board)	E. PE
	PU Disconnection	A communication error between the PU and inverter occurred, the communication interval exceeded the permissible time during the RS-485 communication with the PU connector, or communication errors exceed the number of retries during the RS-485 communication	EPUE

- Notes:
- Resetting the inverter initializes the internal thermal integrated data of the electronic thermal relay function.
 - The error message shows an operational error. The inverter output is not shut off.
 - Warnings are messages given before major failures occur. The inverter output is not shut off.
 - Minor faults warn the operator of failures with output signals. The inverter output is not shut off.
 - When major failures occur, the protective functions are activated to shut off the inverter output and output the alarms.
 - The external thermal operates only when the OH signal is set in Pr. 178 to Pr. 189 (input terminal function selection).

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